

REMARKS

Claims 3-5, 9-11, 15-17, 19, 21 and 23-29 are all the claims pending in the present application.

Applicants gratefully acknowledge the courtesies extended by Examiner Anderson during the telephone interview conducted on July 21, 2010. During the Interview, the cited references were discussed.

I. Response to Rejection under 35 U.S.C. § 103(a)

Claims 3-5, 9-11, 15-17, 19, 21 and 23-29 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,045,322 to Blank et al. in view of U.S. Patent No. 5,498,650 to Flexman et al. Applicants respectfully traverse the rejection for the following reasons.

a. Legal Standard

Under 35 U.S.C. §103(a), the Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. M.P.E.P. § 2142. As set forth in M.P.E.P. § 2143, one requirement for establishing a *prima facie* case of obviousness is that the combination of references must teach or suggest all the claim features. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Additionally, the Patent Office must provide "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" and not "mere conclusory statements." *KSR Int'l Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (U.S. 2007) (quoting *In re Kahn*, 441 F.3d 977, 988, (Fed. Cir. 2006)). Rationales include combining prior art elements according to known methods to yield predictable results, simple substitution of one known element for another to obtain predictable results, use of a known technique to improve similar devices in the same way, applying a known technique to a

known device ready for improvement to yield predictable results, choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, known work in one field that prompts variations of it for use in either the same field or a different field based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill and some teaching, suggestion or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. The Official Action must also show that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective function. M.P.E.P. § 2141.III.

In *Ex Parte Whalen*, 89 USPQ2d 1078 (BPAI 2008), the Board articulated that "obviousness cannot be proven merely showing that the elements of a claimed device were known in the prior art" and that to demonstrate obviousness, "it must be shown that those of ordinary skill in the art would have had some 'apparent reason' to combine the known elements in the fashion claimed," citing *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (emphasis added).

Moreover, when the prior art teaches away from the claimed feature, obviousness cannot be proven merely by showing that a known feature could have been modified by routine experimentation or solely on the expectation of success; it must be shown that those of ordinary skill in the art would have had some apparent reason to modify the known feature in a way that would result in the claimed device. *In re Whalen*, at 16.

b. Argument

In the present case, the Office Action has failed to establish a *prima facie* case of obviousness.

i. Flexman et al. is nonanalogous prior art

Blank et al. relates to an antimicrobial superabsorbent composition comprising a cross-linked partially neutralized acrylic acid-based polymer having covalently bonded thereto a silane, for application including bandages, surgical tampons, sanitary napkins, diapers, body urinals, underarm perspiration pads, breast pads, disposable hat bands, disposable wiping cloths, tissue wipes, pre-moistened towelettes, mattress pads, undersheets, dressings, facial tissues, and of woven or unwoven materials and fabrics such as cotton, cloth, rayon, nylon, wool, surgical gauze, burlap, or paper (col. 7, line 61 - col. 8, line 2).

On the other hand, Flexman et al. relates to poly(lactic acid) compositions comprising 3-200 kDa lactic acid polymers and a plasticizer, for use in the manufacture of packaging films, filters, foamed products, injection molded products and shaped articles. In the passage cited by the Examiner, admittedly, it is stated that *"if the compositions of this invention are intended for use as food packaging, e.g. foamed trays for meat and poultry products, a lactic acid-based compound such as lactide or lactic acid oligomers may be incorporated into the composition to provide antibacterial properties [...]"* (although their inclusion is not preferred).

Food packaging is a field which is not even remotely related to superabsorbent sanitary napkins. In addition, Applicants submit that microbial growth and odour control in sanitary products, especially diapers, during use is not quite comparable to microbial spoilage of packaged meat or poultry (during storage), e.g., in terms of microbial species, conditions, time course, etc.

The Office Action further asserts that "Blank discloses a superabsorbent material for a variety of applications, including food," relying on the description in column 1, lines 25-32 (page 2, item 2 of the Office Action).

Applicants wish to point out that the passage relied upon by the Examiner describes use of antimicrobial agents per se, and not the superabsorbent materials.

As Flexman et al. is nonanalogous prior art, it is improper to rely on Flexman et al. in this § 103 rejection. See MPEP 2141.01(a).

ii. Blank et al. teaches away from use of an independently functioning antimicrobial agent

Blank et al. discloses that "the materials DRYTEC and TMS are combined and reacted together to form a covalent bond therebetween" (col. 4, lines 42-44), and that the presence of the silane component covalently bound to the polymer provides effective and sufficient nonleaching antimicrobial activity (col. 2, lines 50-51). Blank et al. also discloses "the added benefits of reduced odor, improved control of microbes, and the reduction of microbial rashes and allergies" (col. 4, line 68-col. 5, line 2).

It is clear that Blank et al. in fact intends to avoid the addition of an independently functioning antimicrobial agent. As indicated in Applicants' arguments presented in the previous response, it is believed that according to Blank et al., covalent binding of the silane component, e.g., TMS, to the polymers, is essential to the invention (column 4, lines 51-54), as this yields polymers that possess in addition to their superabsorbancy characteristics, the property of antimicrobial activity (column 2, lines 32-34), as opposed to both functioning independently one from the other (column 2, lines 51-55). Hence, the 'replacing' or 'supplementing' of the silane component with an independently functioning antimicrobial agent would, at least partially, 'destroy' exactly what Blank et al. tries to achieve.

Again, in this respect, Applicants refer to the view expressed in a number of Board decisions and a decision of the CCPA that a combination of primary and secondary references is improper in a case in which modification of primary reference's structure in

proposed manner would destroy the invention disclosed in the primary reference for its intended purpose. See, e.g., *Ex parte Sternau*, 155 USPQ 733, 735 (Bd. App. 1967), *Ex parte Westphalen* 159 USPQ 507 (Bd Pat Appeals Int, 1968), *Ex parte Eastwood, Brindle, and Kolb*, 163 USPQ 316 (Bd Pat Appeals Int, 1968), *In re Meunier*, 434 F2d 657, 168 USPQ 43 (CCPA 1970), *Ex parte Hartmann*, 168 USPQ 43 (Bd Pat Appeals Int 1974), *Ex parte Thompson* 184 USPQ 558 (Bd Pat Appeals Int, 1974), and *Ex parte Acosta* 211 USPQ 636,637 (Bd Pat Appeals Int, 1979).

iii. The Office Action has failed to show "predictable results" by combining Blank et al. and Flexman et al.

As noted above, in Blank et al., the silane component is covalently bound to the polymer. The Office Action has failed to establish that the lactide described in Flexman et al. would form a covalent bond with the polymer used in Blank et al.

In addition, as noted above, microbial growth and odour control in sanitary products, especially diapers, during use is not quite comparable to microbial spoilage of packaged meat or poultry (during storage). Flexman et al. does not provide any hint or suggestion as to the suitability of lactide for microbial/odour control in sanitary products, especially diapers. The Office Action has failed to show that the antimicrobial agent used in food packaging of Flexman et al. would be effective in microbial growth and odour control in sanitary products.

Furthermore, as can be inferred from the description in lines 12-13 of page 1 of the present specification in combination with the results in Tables 2, 3 and 4 of the present specification, it is quite an essential requirement in sanitary products that the pH value in the material during use (notably after wetting of the superabsorbent polymer) is maintained within a specific range, in order to avoid skin problems. Flexman et al. is entirely silent as to the pH effects of adding lactic acid generating compounds and, hence, as to the suitability of

lactide for antimicrobial/odour control in sanitary products. Clearly, skin irritation is not an issue in packaged meat/poultry products. Moreover, the pH value upon wetting is established depending on the specific combination of the antimicrobial agent and the (partially neutralized) superabsorbent polymer in which it is incorporated. In other words, the suitability of lactide for inclusion in superabsorbent sanitary products *per se*, is in no way derivable from Flexman et al.

Moreover, Flexman et al. does not concern cross-linked partially neutralized acid-based polymers. Therefore, it is entirely 'unpredictable' whether the essential superabsorbing properties of the cross-linked partially neutralized polymers of Blank et al. will be retained when an amount of a lactic acid-generating compound is added thereto. As will be understood by those of ordinary skill in the art, addition of acid (generating) compounds might very well affect cross-linking and/or neutralization of these acidic polymers. As a matter of fact, it was generally understood in the art that the addition of acidic compounds to these superabsorbing polymers could be detrimental to the absorbing capacity of superabsorbing polymers.

In view of the foregoing, Applicants respectfully that the present claims are patentable over Blank et al. in view of Flexman et al., and thus the rejection should be withdrawn.

II. Conclusion

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any

questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at her earliest convenience.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:



Fang Liu, Ph.D.

Registration No. 51283

Customer No. 21839

703 836 6620